

STUDY OF ASSOCIATION BETWEEN BEEDI AND CIGARETTE SMOKING, SOCIO-ECONOMIC STATUS IN THE ETIOLOGY OF THROMBO-ANGIITIS OBLITERANS

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HOW TO CITE THIS ARTICLE:

Rama Krishna Y, Amar D. N, Aravind Naik, Sathyamurthy Aithal. "Study of Association between Beedi and Cigarette Smoking, Socio-Economic Status in the Etiology of Thrombo-Angiitis Obliterans". Journal of Evidence based Medicine and Healthcare; Volume 2, Issue 1, January 05, 2015; Page: 9-13.

ABSTRACT: INTRODUCTION: Thrombo-angiitis obliterans is distributed throughout the world. Smoking is an important aetiological factor in the pathogenesis of this disease. Patients with the disease are usually male smokers and between 20 and 40 years old. Patiently most commonly seek medial case for symptoms related to ischemia of distal. **MATERIALS AND METHODS:** For the present study, a group of 50 cases of thrombo-angiitis obliterans admitted to the surgical wards of, Srinivas Institute of Medical Sciences and Research Centre, Mukka, Mangalore, during the study period of August 2012 to August 2014. Fifty patients of thrombo-angiitis obliterans were selected randomly and studied in detail. Male patients who were in the age group of 25 to 45 years were included. **RESULTS AND DISCUSSION:** All the patients were males. Youngest patient in this series was 25 years and oldest being 45 years at the time of onset of the disease. Most of them were belonging to lower socio-economic status. Majority of them were unskilled and semi-skilled workers. All of them belonged to moderate to heavy smokers.

KEYWORDS: Smokers, Thrombo-angiitis obliterans, Peripheral vascular disease.

INTRODUCTION: Thrombo-angiitis obliterans is distributed throughout the world. The disease has drawn the attention of medical fraternity in the recent years, more so after the work of Buerger on whose name the disease is known as "Buerger's disease".

"You can have your, cigarettes or you can have your legs. You can't have both". This advice; however brutal, is sound. Smoking is an important aetiological factor in the pathogenesis of this disease.

Stopping smoking is the first and most important part of treatment, something, which many addicts are not able to do. Patients with the disease are usually male smokers and between 20 and 40 years old. Patiently most commonly seek medial case for symptoms related to ischemia of distal.

MATERIALS AND METHODS: For the present study, a group of 50 cases of thrombo-angiitis obliterans admitted to the surgical wards of Srinivas Institute of Medical Sciences and Research Centre, Mukka, Mangalore, during the study period of August 2012 to August 2014.

Fifty patients of thrombo-angiitis obliterans were selected randomly and studied in detail. Male patients who were in the age group of 25 to 45 years were included.

These patients were interrogated for detail history and data with relevant investigations according to proforma.

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Patients who were smokers having pain and intermittent claudication, ulceration of foot, gangrene, etc were examined thoroughly including peripheral pulses.

Apart from routine investigations, patients were processed for Doppler scanning and histopathological examination of affected vessels removed during amputation procedure and the diagnosis was confirmed by radiological and histopathological study of arteries obtained from the amputated limbs.

RESULTS:

Age	Number of patients	Percentage
25-30 years	10	20
31-40 years	24	48
41-45 years	16	32

Age Distribution

	Male	Female
Number of patients	50	0

Sex Distribution

Socio-economic status	Number of patients
BPL	46
ABL	4

Socio-Economic status

Side of disease	Number of patients
Left lower limb	16
Right lower limb	29
Bilateral lower limbs	3
Left upper limb	1
Right upper limb	1

Side of Disease involved

All the 50 patients were smokers. The duration of smoking varied from 6 to 25 years. Most of the patients in this study were smoking the beedies. This shows that smoking is certainly a risk factor for thrombo-angiitis obliterans.

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Number of beedies/day	Number of patients
Moderate smokers (10 to 20 beedies per day)	20
Heavy smokers (>20 beedies per day)	30

Smoking Distribution

Modes of presentation	Number of patients	Percentage
Pain in the limbs	50	100
Ulcer in the limb	40	80
Oedema of limbs	21	42
Gangrene of limbs	18	36

Modes of Presentation

DISCUSSION: Leo Buerger, after extensive study of the disease "Thrombo-angiitis obliterans", reported in the year 1908, the typical clinical features of this disease. Following him many workers like Boyd, Wessler, Difle, Lewis, Mckusick, Harris, Reddy, Singhai, made a detailed study and established that it is a separate disease entity.

The incidence of this disease in western is showing a gradual decline. In 1945, Mayo clinic reported the incidence to be one in 1,000 patients. In 1959, it declined further to one in 2,000 patients. The incidence was reported from the Mangalore to be at 1.01% (Nayak, 1965).

1. Age Distribution: In our study of 50 patients, majority of patients (48%) were in the age group of 31-40 years, 20% of patients were in the age group of 25-30 years.

Another 16 patients (32%) were in the age group of 41-45 years. The mean age of presentation in our series was 31 years. But, De Bakey and Cohen (1963), after second world war, analysed and reported the age group to be 20-34 years. Fisher (1945) reported youngest patient to be a boy of 16 years.

2. Sex Distribution: All the patients (50) were males; no female patient was seen in our study. There were no female patients reported to be suffering from this disease, which has been established by Buerger (1924) and Silbert (1935).

3. Socio-Economic status Distribution: In the present study of 50 cases, 92% of patients belonged to lower socio-economic status, 8% of patients belongs to high socio-economic status.

This indicates that the disease is more prevalent in lower socio-economic class people.

4. Smoking Distribution: In our study, all the patients were male smokers. According to Hutchinson J., Keenan E.J. and Poster J.M., some immunologic process activated by smoking plays the primary etiologic role in thrombo-angiitis obliterans. The present study confirm that

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there is a definite relation between tobacco smoking and thrombo-angiitis obliterans. The smoking in our series of patients was of beedies. They were all moderate to heavy smokers. The restriction or cessation of smoking has definitely helped in the arresting the progress of the disease temporarily.

5. Side of Disease and Distribution: In our study, 16 patients (32%) had left lower limb involvement. Right lower limb was involved in 29 patients (58%). Bilateral lower limb involvement was seen in 3% of patients. Left upper limb was involved in 1%. Right upper limb also involved in 1% of patients. From this fact we can definitely note that lower limb is commonly involved in thrombo-angiitis obliterans.

6. Modes of presentation: All the patients (100%) had presented with pain and claudication in the limb. Majority of the patients had grade-II (Boyd's) intermittent claudication.

Skin discolorations were seen in 68% of patients, edema was the associated sign in 42% of patients. Ulceration of the limb was seen in 80% of patients. Gangrene of the limbs was seen in 36% of patients. Hence in our series majority of the patients presented with pain and intermittent claudication in the limbs. The clinical types described by Richards (1953) were observed in our series.

SUMMARY AND CONCLUSION: All the patients were males. Youngest patient in this series was 25 years and oldest being 45 years at the time of onset of the disease. Most of them were belonging to lower socio-economic status. Majority of them were unskilled and semi-skilled workers. All of them belonged to moderate to heavy smokers.

They all presented with typical symptoms of peripheral vascular disease with various degrees of ischaemia. There were no unusual presenting symptoms. There was no acute thromboembolic type of thrombo-angiitis obliterans.

BIBLIOGRAPHY:

1. Ahmed M. et al., "Non-atherosclerotic conditions", Moore vascular surgery, Vth Edition, 1998, W.B. Saunder's company, chapter 8, pp111-145.
2. Buerger L. Thrombo-angiitis obliterans: a study of the vascular lesions leading to presenile spontaneous gangrene. Am J Med Sci. 1908; 136: 567-80.
3. Boyd, A.M., 1960, BJS, 56(1): 59.
3. Espinoza LR. Buerger's Disease: Thromboangiitis Obliterans 100 years after the initial description. Am J Med Sci. Apr 2009; 337(4): 285-6.
4. Salimi J, Tavakkoli H, Salimzadeh A, Ghadimi H, Habibi G, Masoumi AA. Clinical characteristics of Buerger's disease in Iran. J Coll Physicians Surg Pak. Aug 2008; 18(8): 502.
5. Malecki R, Zdrojowy K, Adamiec R. Thromboangiitis obliterans in the 21st century-A new face of disease. Atherosclerosis. Feb 12 2009; David I. Abramson, 1963, Am. J. cardiology, 12: 107.

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6. Lawrence PF, Lund OI, Jimenez JC, Muttalib R. Substitution of smokeless tobacco for cigarettes in Buerger's disease does not prevent limb loss. *J Vasc Surg.* Jul 2008; 48(1): 210-2.
7. Abyshov NS, Zakirdzhaev EA, Aliev ZM. [Modern aspects of diagnostics and treatment for thromboangiitis obliterans]. *Khirurgiia (Mosk).* 2009; 75-9.
8. Olin JW, Young JR, Graor RA, Ruschhaupt WF, Bartholomew JR. The changing clinical spectrum of thromboangiitis obliterans (Buerger's disease). *Circulation.* Nov 1990; 82(5 Suppl): IV3-8.

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Date of Submission: 27/12/2014.

Date of Peer Review: 29/12/2014.

Date of Acceptance: 30/12/2014.

Date of Publishing: 01/01/2015.